Male-Female Differences in Mental Health Visits Under Cost-Sharing

Jacqueline Wallen, Pamela Roddy, and Samuel M. Meyers

This article, which was prepared as part of a larger study of the impact of the copayment requirement on United Mine Workers of America (UMWA) beneficiaries carried out at the National Center for Health Services Research (NCHSR), compares male to female changes in ambulatory care visits for mental disorders and discusses the implications of these changes for the use of other services and for the quality of care. Figures were derived from aggregate claims data provided by the UMWA for the time periods immediately preceding the introduction of copayment (full coverage for all health care) and the first year following the introduction of copayment. Our findings suggest that, at least as far as visits for mental disorders are concerned, copayment may reduce necessary visits. The men in our population, who sought care for mental disorders more sparingly than women and for more severe complaints, were most affected by copayment.

In March 1978, the health benefits provisions for approximately 800,000 active and retired members of the United Mine Workers of America (UMWA) and their dependents were changed. For more than 25 years, UMWA miners and their families had received extensive

---

Presented at the 110th Annual American Public Health Association Meeting in Montreal, Canada, November 16, 1982. The views expressed in this article are those of the authors and no official endorsement by the National Center for Health Services Research or the Department of Health and Human Services is intended or should be inferred.

Address correspondence and requests for reprints to Jacqueline Wallen, Ph.D., Health Services Researcher, National Center for Health Services Research and Health Care Technology Assessment (NCHSR), Division of Intramural Research, Rockville, MD 20857. Pamela Roddy, Ph.D. is a Health Services Researcher, and Samuel M. Meyers, M.A. is Senior Health Researcher at the National Center for Health Services Research and Health Care Technology Assessment.

health care coverage through the UMWA Health and Retirement funds with no direct out-of-pocket costs. The terms of the 1978 Coal-Wage Agreement continued to provide miners with the same extensive coverage, including some minor additions, but also instituted a copayment system. Active miners and their dependents were required to pay $7.50 for each physician visit, regardless of location, and $5.00 for each outpatient drug prescription (to yearly maximums of $150 and $50, respectively). Retired miners and their dependents paid $5.00 each physician visit and $5.00 for each drug prescription (to yearly maximums of $100 and $50, respectively). This change in the health benefits of a population provides a natural experiment on the effects of copayment.

This article, which was prepared as part of a larger study of the impact of the copayment requirement on UMWA beneficiaries carried out at the National Center for Health Services Research (NCHSR), considers changes in ambulatory care visits for mental disorders and the implications of these changes for the use of other services and for the quality of care.

Earlier research has suggested that the imposition of cost-sharing does reduce the use of ambulatory care services (Roemer et al. [1], Donabedian [2], Newhouse et al. [3]). Some studies have pointed to a substitution effect between mental health services and other ambulatory care services, however. A major review of the literature on the relationship between use of mental health services and use of other services, for example, has noted that in almost all of the studies reviewed, increased use of mental health services was followed by a decline in the use of other medical services (Jones and Vischi [4]). Research has not yet been carried out to determine whether the inverse is also true—whether a decrease in mental health services results in an increase in the use of other services.

THE PRESENT STUDY

While all UMWA beneficiaries had the same insurance coverage at the time of the study, administrative arrangements for miners who retired before 1970 and their dependents (covered under the "1950 Trust") had been handled separately from the insurance arrangements for actively employed and recently retired miners since the signing of the 1978 Coal-Wage Agreement. At that time, responsibility for providing insurance for the latter group was transferred from the UMWA Funds

to the miners' employers. Miners retired prior to 1970 and their dependents (primarily wives and children) remained the responsibility of the Funds. For this group—which we will call the retired miners—computerized health care claims data had been maintained by the Funds since July 1977. In the Johnstown-Morgantown regions of Ohio, West Virginia, and Pennsylvania, computerized record-keeping had begun even earlier, in January 1977, or approximately six months before the introduction of copayment.

Because computerized baseline and post-cost-sharing data were available for this group, the present study focuses on all of the retired, non-Medicare-eligible miners and their dependents in the Johnstown-Morgantown regions, a total of 8,980 persons.[1] However, since most of the beneficiaries were between the ages of 45 and 64 (72 percent of the 1950 Trust), and since the number of persons in other age groups was too small to permit a meaningful analysis, most of the analyses reported in this paper were done on the 45–64-year-old group. In this age group, 42 percent of the beneficiaries were male and 58 percent were female. Other sociodemographic data were not available for this group, but it should be noted that the average annual income for miners in general—and retired miners in particular—was lower than the national average. In addition, since health-related problems may have accounted for some of the retirements, the health status of men in this group may have been somewhat poorer than is typical for males of this age.

The figures presented in this article were derived from aggregate claims data provided by the UMWA for two time periods: January through June 1977, the first six months of the year preceding the introduction of copayment (full coverage for all health care); and March 1978 through February 1979, the first year following the introduction of copayment. Visits for the first six months of 1977 were doubled to estimate annual per capita visit rates for comparison with the one-year period following copayment. Occasionally, where the number of cases in a particular diagnostic category was small, figures for the entire retired miner group were used rather than figures for the 45–64-year-old group alone. In this case the changed population has been noted.

Mental health visits, or visits for mental disorders, were defined for this study as visits where the patient's principal diagnosis was "mental disorder" as defined by the H-ICDA code, even though it was not possible to establish, with the data available, that the mental disorder was the primary reason for the visit.

FINDINGS

In the population of 45–64-year-old retired miners and dependents studied, annual per capita ambulatory care visits during the baseline period of full coverage were similar to rates for the national population of 45–64-year-olds. These UMWA beneficiaries made an average of 4.3 physician visits in 1977, while the national figure for that year was 4.6 (USDHEW [5]). In the year after the introduction of copayment, outpatient visits decreased among beneficiaries in the retired miner population, to an average of 3.3. The national visit rate remained relatively stable over this time. Tests of significance were not used in this analysis because the population studied was the universe that we described. It included *all* retired miners living in the Johnstown-Morgantown area. Since there was no sampling error, significance tests were inappropriate.

Although a classic before-and-after study would have been an ideal design, the data used for this study gave only aggregate information on overall visit rates by age group and sex. As a result, it was not possible to contrast an individual beneficiary's use of services before copayment to his or her use after copayment.

Table 1 compares use of services by men and by women before and after copayment. As the table shows, men used ambulatory care services less than women in both time periods. Sex differences in the use of outpatient care also existed in the national population. In 1977, women nationally made 20 percent more visits than men [5]. In our group, however, women made approximately 50 percent more visits than men. Ambulatory care visits in our population decreased in similar proportions for men and women after the introduction of copayment (a decrease of 21 percent for men and 25 percent for women), even though men were using less care to begin with. Hospitalizations for men increased both absolutely and in proportion to total outpatient visits after the imposition of copayment. For women, hospitalizations decreased very slightly in the copayment period.

After the introduction of copayment, the reduction in visits for which the primary diagnosis was "mental disorder" was proportionately greater than the reduction in visits as a whole—40 percent for mental disorders compared to 23 percent for all diagnoses. Since, except for the introduction of the copayment requirement, there was no change in coverage for mental health services over the study period, there is no reason to believe that this reduction reflects changes in reporting practices, although it is probable that mental disorders were underreported

Table 1: Ambulatory Care Visits Before and After Copayment for 1950 Trust Beneficiaries, 45–64 Years Old, Johnstown/Morgantown Regions

	Full Coverage (January–June 1977)			*Copayment (March 1978–1979)*		
	Men	*Women*	*Total*	*Men*	*Women*	*Total*
Average number of annual per capita outpatient visits for all diagnoses	3.3	5.1	4.3	2.6	3.8	2.8
Average number of annual per capita hospitalizations for all diagnoses	0.12	0.17	0.15	0.15	0.16	0.16
Average number of inpatient visits:outpatient visits, all diagnoses	1:28	1:30	1:29	1:17	1:23	1:21
Average number of annual per capita outpatient visits for mental disorders	0.06	0.15	0.10	0.02	0.08	0.06
Average number of annual per capita hospitalizations for mental disorders	0.01	0.01	0.01	<0.01	<0.01	<0.01
Average number of inpatient visits:outpatient visits, mental disorders	1:9	1:27	1:19	1:6	1:18	1:14
Number of beneficiaries	2,738	3,731	6,469	2,363	3,474	5,837

in both time periods (Schwartz et al. [6]). As Table 1 also shows, men and women differed more in their visits for mental disorders than in their use of ambulatory care in general—the female per capita visit rate for mental disorders was 150 percent greater than that of men. In spite of the fact that men made fewer visits in general for mental disorders than did women in the baseline period, male visits decreased more than female visits after the introduction of copayment. The decrease in average annual visits for mental disorders for men was 67 percent. For women, the decrease was 46 percent.

The greater reduction in visits for mental disorders on the part of men is of interest, not only because men used mental health care less to begin with, but also because, in the baseline period, men were more apt to be treated for severe mental disorders than women. During the baseline period of full coverage, 47 percent of mental health visits made by men were for neuroses, while 39 percent were for psychoses, either with or without an organic base.[2] During this same period, only 6 percent of all female mental health visits were for psychoses, while 80 percent of female visits were for neuroses. One might expect an increase in hospitalizations for mental disorders in men after the introduction of copayment, due to a worsening of some mental disorders which were no longer being treated on an outpatient basis. In fact, this does not appear to have occurred. Hospitalizations for mental disorders in the 45–64-year-old group decreased very slightly for both men and women after the introduction of copayment. Hospitalizations increased in proportion to outpatient visits for mental disorders, but this was due to a decrease in outpatient visits rather than to an increase in hospitalizations.

To the extent that there is a substitution effect between mental health visits and other visits, one might expect an increase in the frequency of some physical complaints in our population to accompany the decrease in mental health visits. Ambulatory care visits for men in our population, however, decreased for all major organic diagnostic categories except for one that no doubt results from the aging of this unique population rather than from any changes in mental health utilization. This category was neoplasms, particularly neoplasms of the bronchus and lung.

A separate analysis, not shown in Table 1, shows that a marked sex difference in responses to copayment existed within the diagnostic category of "signs, symptoms, and ill-defined conditions," or those complaints for which no specific organic diagnosis was provided (Commission on Professional and Hospital Activities [7]). The per capita visit rate for women in this category was .52 in the baseline period and

.27 after the introduction of copayment. Women, therefore, decreased visits for "signs, symptoms, and ill-defined complaints" at twice the rate that their overall visits rate decreased (visits for all conditions together decreased by 25 percent after copayment). For men, however, visits in this category remained stable in spite of an overall decrease in visits of 21 percent. Table 2[3] shows that, for a number of specific complaints, male visit rates actually increased. These complaints are fainting, nosebleed, respiratory dysfunction, abdominal pain, pain in joints, and aches and pains, all without any accompanying organic diagnosis. Female visits increased in only one category: that of respiratory dysfunction. While some of the increases in male visits may reflect job-related disorders whose organic basis has not yet become clear, it is also possible that, for men, physician visits for vague physical complaints may have substituted, to some extent, for visits with a complaint of mental disorder. Overall, the total number of visits by men for the conditions listed in Table 2 increased by 28 percent. For women, total visits for these diagnoses decreased by 31 percent.

DISCUSSION

The findings reported in this study must be viewed with caution since they no doubt reflect, in many ways, special characteristics of the population studied. In contrast to their female dependents, retired miners have all worked in the mines and may have health problems related to their work history. This may be particularly true for the younger retirees. Still the sex differences in ambulatory care utilization and in response to copayment observed in our population are interesting. In the baseline period, women in our population made 50 percent more ambulatory care visits than men. Women's per capita visits for mental disorders were more than twice those of men. These findings are consistent with previous research on ambulatory care utilization. Nationally, women are more likely than men to visit the doctor [5], and when they do visit the doctor, they receive more services than men even when medically relevant factors such as age, diagnosis, severity, and complaint are controlled (Verbrugge and Steiner [8]). Women report more psychiatric symptoms than men (Phillips and Segal [9]) and make more physician visits for mental disorders (Gove and Tudor [10]). A number of explanations have been offered for these differences. Some authors attribute the relative readiness of women to seek medical care in general and mental health services in particular to differences in willingness to admit to illness or disability (Phillips and

Table 2: Annual Visits for Selected "Signs, Symptoms, and Ill-Defined Conditions" by 1950 Trust Beneficiaries, Johnston/Morgantown Regions

Number of Visits per Thousand	*Full Coverage*		*Copayment*		*Percent Change*	
	Men	*Women*	*Men*	*Women*	*Men*	*Women*
Fainting (HICDA-775.5)	0	6.3	1.2	0.8	> +400	-87
Nosebleed (HICDA-776.1)	3.1	7.8	3.8	4.0	+23	-49
Respiratory dysfunction (Wheezing, shortness of breath, etc. HICDA-778-778.9)	7.7	2.4	10.5	7.4	+36	+208
Abdominal pain (HICDA-789.3)	10.3	30.9	13.2	31.0	+31	< +.1
Aches and pains (HICDA-789.0-789.9)	16.5	55.2	19.6	27.4	+19	-50
Total visits for above conditions	37.7	102.6	48.2	70.7	+28	-31
Number of beneficiaries	3,874	5,106	3,422	4,740	-12	-7

Segal [9], Nathanson [11]). Presumably, admitting to illness and pain is likely to be seen by men as incompatible with social expectations that they will be stronger and more stoic than women. Men are also more likely to be employed than women, so that it may be more difficult for them to visit the doctor. Nathanson has shown that employed women have lower sickness rates than unemployed women [11]. It has also been argued that women actually do suffer from more stress-related disease and mental illness than men (Gove and Tudor [10], Feldberg and Kohen [12], due to structural stresses on the family and the female role. Doctors, furthermore, may be more likely to attribute female illness to an underlying psychological disturbance and therefore respond to female health complaints with a diagnosis of mental disorder (Wallen et al. [13]).

In our population, men reduced their use of ambulatory care services after the introduction of copayment at approximately the same rate as women. Visits for mental disorders, however, showed a different pattern. Mental health visits for men declined at three times the rate of ambulatory care visits in general. For women they declined at only half the rate of overall ambulatory care visits. This occurred even though male mental health diagnoses suggested that male visits tended to be for more severe disorders than female diagnoses. Apparently the men, who were more reluctant to seek care for mental disorders even in the baseline period, experienced copayment as a greater barrier to use of mental health services than did women.

Proponents of cost-sharing in health care base their views on the assumption that cost-sharing will reduce the use of medical services without preventing individuals from obtaining needed care. While we cannot determine which physician visits are needed, our findings suggest that, at least as far as visits for mental disorders are concerned, copayment may reduce necessary visits as well. The men in our population, who sought care for mental disorders more sparingly than women and for more severe complaints, were most affected by copayment.

NOTES

1. Medicare-eligible beneficiaries were excluded because the presence of Medicare coverage represented a confounding factor.
2. Here the entire 1950 Trust population was used. Since this included young retirees who may have retired early because of disabilities, rates of severe mental illness for men in this group may be somewhat higher than rates for men who retired at the usual age.

3. In Table 2, figures for all beneficiaries of the 1950 Trust, regardless of age, are presented to provide a larger number of cases.

REFERENCES

1. Roemer, M. I., et al. Copayments for ambulatory care: Penny-wise and Pound Foolish. *Medical Care* 13(6):457-66, 1975.
2. Donabedian, A. *Benefits in Medical Care Programs*. Cambridge, MA: Harvard University Press, 1976.
3. Newhouse, J. P., et al. *Some Interim Results from a Controlled Trial of Cost Sharing in Health Insurance*. Santa Monica, CA: Rand, 1981.
4. Jones, K. R., and T. R. Vischi. Impact of alcohol, drug abuse, and mental health treatment on medical care utilization. *Medical Care* 17(12 Supplement):1-61, 1979.
5. U.S. Department of Health, Education and Welfare. *Health United States: 1979*. Publication No. (PHS)80-1232. Washington, DC: Government Printing Office, 1980, p. 186.
6. Schwartz, A. H., et al. Psychiatric diagnoses as reported to Medicaid and as recorded in patient charts. *American Journal of Public Health* 70(4):406-08, 1980.
7. Commission on Professional and Hospital Activities. H-ICDA Hospital Adaptation of ICDA, Vol. 1, Ann Arbor, MI, 1973.
8. Verbrugge, L. M., and R. P. Steiner. Physician treatment of men and women patients. *Medical Care* 19(6):609-32, 1981.
9. Phillips, D., and B. Segal. Sexual status and psychiatric symptoms. *American Sociological Review* 34:58-72, February 1969.
10. Gove, W. R., and J. F. Tudor. Adult sex roles and mental illness. *American Sociology Review* 78(4):812-35, 1973.
11. Nathanson, C. A. Illness and the feminine role: A theoretical review. *Social Science and Medicine* 9(9):57-62, 1975.
12. Feldberg, R., and J. Kohen. Family life in an anti-family setting: A critique of marriage and divorce. *Family Coordinator* 124(2):151-59, 1976.
13. Wallen, J., H. Waitzkin, and J. Stoecke. Physician stereotypes about female health and illness: A study of patient's sex and the informative process during interviews. *Women and Health* 4(2):135-46, 1979.